

# DEVELOPING PAKISTAN NATIONAL TRADE CORRIDOR

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## ABSTRACT

Pakistan is geographically located at a strategic location in South Asia. It shares South Western border with Iran, Northern border with Afghanistan and China and Eastern border with India. Arabian sea lies in south. This ideal location has merited Pakistan as most attractive for transit route to the Central Asian countries.

An efficient transport system is seen by most countries as an essential pre-condition for general economic development, and considerable resources are devoted to transport infrastructure construction and improvements. The existing transport system in Pakistan is mainly dependent on roads which suffers high economic losses and is estimated of about 4 to 6 percent of the GDP. These losses put constraints on economic growth, reduce export competitiveness and hinders social development. The main weakness of the present transport system includes high port costs, long dwell times, poor highway conditions, railways inefficiencies, custom inefficiencies, underdeveloped logistic sector.

The existing north south highways on the eastern and western banks of river Indus are serving as the backbone of transport system which connects the ports of the south to the populated cities in the north. The National Highway Authority (NHA) took the initiative under the National Trade Corridor (NTC) highway sector improvement program which comprises of three elements:

- (a) construction of north-south access-controlled expressway/motorway system
- (b) development of linkages of the new port of Gwadar with the NTC
- (c) up-gradation of Karakoram Highway (N-35) linking China.

The main outcome of the gigantic plan is to reduce travel time to 50% (from 72 to 36 hours), travel cost by 50%, annual transportation losses from Rs 190 Billion to Rs 100 Billion and fatal accident rates by 50%. The program, having economic internal rate of return of 43%, will be implemented by 2018 with a combination of government and development banks funding.

## **INTRODUCTION**

Pakistan with a population of 160 Million people, is gifted with an excellent geo-strategic location with South Asia on one and Central Asia on the other side. It shares South Western border with Iran, Northern border with Afghanistan and China and Eastern border with India. Arabian Sea lies in south. This ideal location has merited Pakistan as most attractive for transit route to the Central Asian countries. For competitive trade to the Central Asian Republics (CARs), India is also dependent on this route.

The transport sector is the backbone of economy. It accounts for about 10% of Pakistan's GDP. It constitutes 12-15% of Public Sector Development Program (PSDP) and provides about 6% of total jobs (2.7 million). This sector expends 35% of the fuel energy annually. The transport system of Pakistan relies overwhelmingly on road transportation. The roads, which are about 260,000 Km in length, carry approximately 291 million tons whereas 6.4 million tons by rail. Pakistan has about 5 million vehicles on the road, growing at about 8% annually. The roads network is functioning but inadequate, inefficient & costly and causing a 4-6% loss to GDP, which translates to US \$ 7-8 billion per annum.

It is well known that unless the country's infrastructure, administration and regulations are adjusted to promote modern transport and communication systems, the envisaged economic growth and export competitiveness cannot be realized. If the Pakistan does not upgrade its road infrastructure in the next five to eight years, it may lag far behind in reaping the benefits of fast changing global/regional scenario. The Vision 2030 (Transport Sector) indicates establishment of an efficient and well integrated system that will facilitate development of a competitive economy and poverty reduction, while ensuring safety in mobility. Construction of major new motorways / corridor through less populated areas to spread urbanization and the Development of international standard linkages with regional countries are inter-alia the targets fixed in vision 2030 for improving logistics/supply chain.

## **THE NATIONAL HIGHWAY NETWORK**

National Highway Authority (NHA) is an agency responsible for National Highways, Motorways and Strategic Roads. Length of the road network under the jurisdiction of NHA is approximately is 12000 kms and comprises primarily of strategic and principal arterial routes that serve inter-provincial long distance traffic, including important commercial cities and major freight terminals. Though, the length of National Highways is only 3.3% of the entire road network of the country but it carry more than 80% of the country's traffic.

NHA aims to construct, maintain and operate the national highways network to minimize the road transportation cost, provide driving comfort and safety to the road users and to preserve the asset investment in roads and bridges. NHA continues the active pursuit of transforming national roads to modern highways/expressways and consolidation of existing assets as well as providing linkages to remote and far flung areas from the main development stream of the country.

The Government has not adequately invested in building the road network in the past, which resulted in a huge developmental backlog at all the three levels, i.e. Federal Government, Provincial Government and Local Government roads. Unfortunately, the dilemma has not limited itself to lack of adequate investment in the past for development of road but it also engulfed the maintenance of existing road network.

National Highway N-5 which is 1819 km in length, constitutes less than 1% of country's total network, is the north-south link and is the life line of Pakistan. 80% of country's urban population lives in this corridor. It supports over 65% of trade/port traffic and serves main industrial centers which contribute 80-85% of GDP. There are different road network challenges which are given below:-

### Capacity of National Highway N-5

- The capacity of N-5 (North-South Link) is 66,000 pcu whereas utilization upto 2008 is 50% to 93% (33,000 to 61,000 pcu). The utilization upto 2018 is estimated to 100% to 186% (66,000 to 122,000 pcu)

### Quality of Existing Road Infrastructure

- The **poor infrastructure** is costing to the economy to the tune of Rs 60-90 bil/year in extra fuel cost and subsidies on diesel. For example, the travel time between Karachi and Peshawar (1750 Km) is 72 hrs with an average commercial operating speed of 20-25kph whereas it is 24hrs for Algeiras - Paris (1855 km) with average commercial operating speed 80 to 90 kph
- The **Vehicle Operating Cost is high** because of poor quality. It is about Rs 30 bil/yr in additional road user costs. N-5, which is the main artery, about 49% length is in poor condition and require surfacing or rehabilitation
- **Poor Road Safety** is putting economic loss of Rs 75 bil/yr to the country. 7000 persons die in road accidents every year; By 2015 ~ around 14,000 fatalities; ten times higher than developed countries; (20 persons killed/year/10,000 vehicles)

### Extending Service Coverage

- The road density of Pakistan is very low (0.32 km/square km) as compared to the Bangladesh (1.7 km/square km), Sri Lanka (1.5 km/square km), India (1.0 km/square km). At the current growth rate of the road network (4.2 percent during the past decade), it will take 50 years to arrive at the density of India.
- The new port at Gwadar has no direct link with the NTC.
- KKH that links Pakistan with China permits movement of only small trucks and is closed to traffic in winters.

### NATIONAL TRADE CORRIDOR HIGHWAY IMPROVEMENT PROGRAMME (NTCHIP)

It has been planned to put our road infrastructure commensurate with current/futuristic needs as this critical activity is related directly to Pakistan's overall socio-economic development. A major initiative has been launched around the National Trade Corridor (NTC) for improving transport logistics infrastructure / services by bringing the quality to international standards. The main objective is to reduce overall trade related transport logistics cost, thereby decreasing the cost of doing business & lowering indirect losses, resulting in trade competitiveness & accelerated industrialization to sustain high economic growth.

Adopting a holistic approach, the NTC improvement program (NTCIP) covers systems, procedures, & investments related to ports & shipping, energy logistics, highways improvement & trucking modernization, trade facilitation, railways restructuring / modernization and aviation / air transport modernization.



Objective of NTC Highway Improvement Program (NTCHIP) is to “improve trade flows & lower transit costs & times through sustainable delivery of efficient, safe and reliable national highways, motorways and strategic roads system thus contributing to sustained long term economic growth of Pakistan.” It consists of key sector reforms and an investment program of about US\$ 4.6 billion aimed at upgrading capacity, extending the network, & modernizing national highways along NTC.

## INTELLIGENT TRANSPORT SYSTEM

Intelligent transport system (ITS) is a new transport system which is comprised of an advanced information and telecommunications network for traffic users, roads, and vehicles. ITS will result to solve the problems such as traffic accidents, and congestions. The first ever Operation Center is planned on Sehwan-Ratodero Highway N-55, which is a part of NTC, with the assistance of JICA. The project is in planning and design stage. ITS will also be established on whole NTC corridor as well as on the remaining NHA highway network in future.

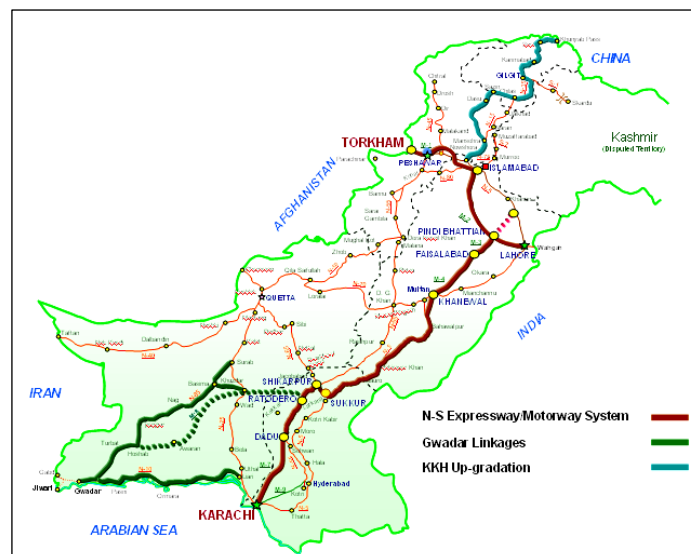
## Outcomes Influenced

NTC links the entire trade logistics network of services and infrastructure in Pakistan. Utilization of the key parts of this corridor is already more than 80% of existing capacity and the demand will double by 2015. It is estimated that inadequate performance of the transport sector costs the economy 4 to 6 % of GDP each year. In 2006, domestic transport represented (on average for 18 products) 1.29 % of the final value of the commodities against a targeted value of 0.80 % to be competitive at global level. Improved external logistics would generate savings in costs of non-factor services estimated at US\$ 525 million annually. Specifically, key outcomes to be achieved, in the road sector, include:-

- 50% travel time reduction – From 48 hrs to 24 hrs between Karachi area ports & main industrial centers in Punjab; & from 72 hrs to 36 hrs between Karachi & Peshawar.
- 10% decrease in road transport costs.
- 50% reduction in road fatalities – From 20 fatalities per 10,000 vehicles to 10.

## THE NTC PROGRAMME

The NTC program is construction of about 4,268 Km roads/motorways/expressways at a cost of Rs 366 Billion by 2018 with a combination of government and development banks funding. The program includes:-



A) **Construction of an access-controlled N-S expressway/ motorway system** to provide a high-speed, safe and reliable road transport corridor. About 370 km of the motorways (M-1, M-2 & M-3) linking Peshawar with Faisalabad is already operational. It aims to complete this system expeditiously with planned financial support of various development partners. Section-wise detail is given below:-

<u>Route No</u>	<u>Section</u>	<u>Lanes</u>	<u>Km</u>	<u>Financing</u>	<u>Status/ Implementation</u>
<b><u>Motorways</u></b>					
M-1	Peshawar - Islamabad	6	154	GOP	Completed
M-2	Islamabad - Pindi Bhattian	6	243	GOP	Completed
M-3	Pindi Bhattian - Faisalabad	4	54	GOP	Completed
<b><u>Expressways</u></b>					
E-1	Torkham - Peshawar	4	51	ADB	2011-15
E-2	Peshawar-Northern Bypass	4	34	ADB	2009-12
E-3	Pindi Bhattian - Wazirabad	4	100	WB	2010-15
E-4	Faisalabad - Khanewal	4	184	ADB	2009-14
E-5	Khanewal-Lodhran-Sukkur*	4	485	WB	2010-17
E-6	Sukkur - Shikarpur- Dadu*	4	231	ADB/JICA	2009-15
E-7	Dadu- Hub	2	270	ADB	2012-17
E-8	Gujranwala-Wazirabad-Dina*	4	100	WB	2012-16
<b>Total</b>			<b>1,906</b>		

\* Conversion of existing highways into expressways, GOP; Govt. of Pakistan, ADB; Asian Development Bank, WB; World Bank, JICA; Japan International Cooperation Agency

#### B) **Gwadar Linkages**

Gwadar opens up the heart of Balochistan; which comprises almost half the country's land mass. The Gwadar is not simply as a "Port" but future of Pakistan. Gwadar has already been linked with Karachi through Makran Coastal Highway (N-10). A direct link with N-S expressway/ motorway system to connect Gwadar with NTC is being developed. Plan is to build two sections of Motorway (M-8) Hoshab - Sorab and Khuzdar- Ratodero and National Highway (N-85) ie Hoshab-Sorab & Basima- Khuzdar link (N-30). Section-wise detail is given below:-

<u>Route No</u>	<u>Section</u>	<u>Lanes</u>	<u>Km</u>	<u>Financing</u>	<u>Status/ Implementation</u>
N-10	Gwadar - Liari	2	530	GoP	Completed
N-30	Basima - Khuzdar	2	110	GoP	2009-12
N-85	Hoshab - Basima - Sorab	2	487	GoP	2007-12
M-8	Gwadar - Hoshab	2	193	GoP	Completed
M-8	Khuzdar - Ratodero	2	242	GoP	Completed
<b>Total</b>			<b>1,562</b>		

### C) KKH Up-gradation

Significant increase in trade/transit traffic from China is envisioned after opening of Gwadar Port. It has been decided to upgrade Karakoram Highway (N-35) to improve connectivity with China. Project also includes reconstruction of Sazin - Raikot Section (120 km) that will submerge in proposed Bhasha Diamir Dam reservoir.

<u>Route No</u>	<u>Section</u>	<u>Lanes</u>	<u>Km</u>	<u>Financing</u>	<u>Status/ Implementation</u>
N-35	Hassanabdal - Mansehra	4	97	ADB	Completed
N-35	Mansehra- Sazin	2	254	GoP	2009-14
N-35	Sazin- Raikot	2	120	GoP	2010-15
N-35	Raikot-Khunjerab	2	335	China	2008-13
<b>Total</b>			<b>806</b>		

### THE PROGRAMME FUNDING COMMITMENTS

The present commitments by International Financial Institutions (IFIs) including World Bank, Asian Development Bank, JICA of Japan and Development Bank of China towards the National Trade Corridor NHA's development plan provides funding to the tune of Rs 366 Billion which includes share of the World Bank; Rs 136 Billion (37%), ADB; Rs 109 Billion (30%), JICA; Rs 31 Billion (08%), China; Rs 26 billion (07%), GOP; 64 Billion (17%)

### ANALYSIS

Countrywide traffic surveys, including 3 day manual traffic counts, origin-destination, willingness to pay surveys at 40 locations along and on the proposed alignment, Journey time surveys were conducted on all major existing proposed and alternate alignments. A countrywide model was established on the CUBE software comprising of the all the National Highway Network along with provincial highways and other relevant links based on the JICA 2005-2006 Pakistan Transport Plan Study (PTPS). Demand forecast for the collective opening year of the proposed NTC sections i.e 2015 was established and the forecast was extended to 2025.

The economic analysis for the proposed sections was computed based on the output from the traffic model comprising of Vehicle Operating Cost benefits (VOC) and Value of Time benefits (VOT). The free flow VOC model version 4 was used to establish VOC with different speeds for various categories of traffic. The collective economic internal rate of return (EIRR) for the proposed NTC links was compounded at 47% (inclusive of VOC and VOT benefits) and at 43% (with only VOC benefits).

### CONCLUSION

Realization of Vision 2030 hinges on sustaining 7-8 % economic growth, transport infrastructure particularly NHA network is a prerequisite to sustain this growth. Any compromise on its development will be a step away from the achievement of Vision 2030.